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Litigation involving patent 5,990,389

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Search statement 2

Query/Command : PRT SS 1 MAX 1 LEGALALL

1 / 1 PLUSPAT - ©QUESTEL-ORBIT - image

Patent Number :

US5990389 A 19991123 [US5990389]

Title :

(A) High lysine derivatives of alpha -hordothionin

Patent Assignee :

(A) PIONEER HI BRED INT (US)

Patent Assignee :

Pioneer Hi-Bred International, Inc., Des Moines IA [US]

Inventor(s) :

(A) BEACH LARRY (US); RAO A GURURAJ (US)

Application Nbr :

US83876397 19970410 [1997US-0838763]

Filing Details :

Cont. of US575654 19951220 [1995US-0575654] (Abandoned)

Cont. of US369975 19950106 [1995US-0369975] (Abandoned)

Cont. of US003885 19930113 [1993US-0003885] (Abandoned)

Priority Details :

US83876397 19970410 [1997US-0838763]

US57565495 19951220 [1995US-0575654]

US36997595 19950106 [1995US-0369975]

US388593 19930113 [1993US-0003885]

Intl Patent Class :

(A) A01G-013/00 A01H-005/00 C12N-015/29 C12N-015/82

EPO ECLA Class :

A01N-065/00

C07K-014/415

C12N-015/82C4B10

C12N-015/82C4B10B

C12N-015/82C8B6B

US Patent Class :

ORIGINAL (O) : 800301000; CROSS-REFERENCE (X) : 435320100
435410000

435419000 435468000 530300000 530372000 536023600 800279000

Document Type :

Corresponding document

Citations :

US5703049; EP0318341; EP0502718; WO8904371; WO9214822;
WO9303160;

WO9319190; WO9410315; WO9416078; WO9420628

Altenbach S.B. et al., "Manipulation of Methionine-Rich Protein Genes in
Plant Seeds", Trends in Biotechnology, vol. 8, No. 6, 1990 pp. 156-160.

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Transgenic Canola Results in Enhanced Levels of Seed Protein
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Amino Acids in Plants, vol. 7, 1992 pp. 229-238.

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tobacco, Effects of pre- and pro- sequences at the amino and carboxyl termini of the hordothionin precursor on mature protein expression and sorting", Plant Molecular Biology vol. 24 1994, pp. 83-96.

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Karachi H. et al., "Lysine synthesis and catabolism are coordinately regulated during tobacco seed development" PNAS 91, 1994 pp. 2577-2581, p. 2581 left column, last line right column.

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Rao A.G. et al., "Structure-Function Validation of High Lysine Analogs of .alpha.-Hordothionin Designed by Protein Modeling", Protein Engineering, vol. 7, No. 12, pp. 1485-1493, Dec. 1994.

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Publication Stage :

(A) United States patent

Abstract :

Derivatives of alpha -hordothionin made by position-specific substitution with lysine residues provide lysine enrichment while retaining the antifungal activity of the parent compound.

1 / 1 LGST - ©EPO

Patent Number :

US5990389 A 19991123 [US5990389]

Application Number :

US83876397 19970410 [1997US-0838763]

Action Taken :

20020618 US/RF-A

REISSUE APPLICATION FILED

EFFECTIVE DATE: 20011105

Update Code :

2003-22

1 / 1 CRXX - ©CLAIMS/RRX

Patent Number :

5,990,389 A 19991123 [US5990389]

Patent Assignee :

Pioneer Hi-Bred International Inc

Actions :


20011105 REISSUE REQUESTED

ISSUE DATE OF O.G.: 20020618


REISSUE REQUEST NUMBER: 10/010709

EXAMINATION GROUP RESPONSIBLE FOR REISSUEPROCESS:




Reissue Patent Number:

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838763 (08) 5990389 November 23, 1999

UNITED STATES PATENT AND TRADEMARK OFFICE GRANTED PATENT

5990389

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November 23, 1999

High lysine derivatives of [agr]-hordothionin

REISSUE: November 5, 2001 - Reissue Application filed Ex. Gp.: ; Re. S.N. 10/010,709 (O.G. June 18, 2002)

APPL-NO: 838763 (08)

FILED-DATE: April 10, 1997

GRANTED-DATE: November 23, 1999

LEGAL-REP: Pioneer Hi-Bred International, Inc.

CORE TERMS: plant, sequence, protein, cell, compound, lysine, gene, residue, cassette, vector ...

ENGLISH-ABST:

Derivatives of [agr]-hordothionin made by position-specific substitution with lysine residues provide lysine enrichment while retaining the antifungal activity of the parent compound.

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11859270

Basic Patent (No,Kind,Date): CA 2161881 AA 19940721 <No. of Patents: 012>

Patent Family:

Patent No	Kind	Date	Applic No	Kind	Date
AT 205533	E	20010915	EP 94908585	A	19940112
AU 9461622	A1	19940815	AU 9461622	A	19940112
CA 2161881	AA	19940721	CA 2161881	A	19940112 (BASIC)
CA 2161881	C	20010327	CA 2161881	A	19940112
DE 69428290	C0	20011018	DE 69428290	A	19940112
DE 69428290	T2	20020418	DE 69428290	A	19940112
EP 745126	A1	19961204	EP 94908585	A	19940112
EP 745126	B1	20010912	EP 94908585	A	19940112
US 5990389	A	19991123	US 838763	A	19970410
WO 9416078	A1	19940721	WO 94US382	A	19940112
WO 9416078	A2	19940721	WO 94US382	A	19940112
WO 9416078	A3	19940901	WO 94US382	A	19940112

Priority Data (No,Kind,Date):

US 3885 A 19930113
 WO 94US382 W 19940112
 US 838763 A 19970410
 US 575654 B1 19951220

US 369975 B1 19950106
US 3885 B1 19930113

PATENT FAMILY:

AUSTRIA (AT)

Patent (No,Kind,Date): AT 205533 E 20010915
DERIVATE VON ALPHA-HORDOTHIONIN MIT HOEHEREM BEHALT AN LYSIN (German)
Patent Assignee: PIONEER HI BRED INT (US)
Author (Inventor): RAO A GURURAJ (US); BEACH LARRY R (US)
Priority (No,Kind,Date): US 3885 A 19930113; WO 94US382 W
19940112
Applic (No,Kind,Date): EP 94908585 A 19940112
Addnl Info: 745126 20010912
IPC: * C12N-015/29; C07K-014/00; C12N-005/10; A01H-005/00; A01N-065/00
; C12N-001/21
CA Abstract No: * 121(25)297398A
Derwent WPI Acc No: * C 94-249225
Language of Document: German

AUSTRIA (AT)

Legal Status (No,Type,Date,Code,Text):
AT 205533 R 20010915 AT REF CORRESPONDS TO EP-PATENT
(ENTSPRICHT EP-PATENT)
EP 745126 P 20010912
AT 205533 R 20020315 AT RER CEASED AS TO PARAGRAPH 5
LIT. 3 LAW INTRODUCING PATENT TREATIES
(ERLOSCHEN GEM. PAR. 5 ABS. 3 PATVEG.)

AUSTRALIA (AU)

Patent (No,Kind,Date): AU 9461622 A1 19940815
HIGH LYSINE DERIVATIVES OF ALPHA-HORDOTHIONIN (English)
Patent Assignee: PIONEER HI BRED INT
Author (Inventor): RAO A GURURAJ; BEACH LARRY R
Priority (No,Kind,Date): US 3885 A 19930113; WO 94US382 W
19940112
Applic (No,Kind,Date): AU 9461622 A 19940112
IPC: * C12N-015/29; C07K-013/00; C12N-005/10; A01H-005/00; A01N-065/00
; C12N-001/21
CA Abstract No: * 121(25)297398A
Derwent WPI Acc No: * C 94-249225
Language of Document: English

CANADA (CA)

Patent (No,Kind,Date): CA 2161881 AA 19940721
HIGH LYSINE DERIVATIVES OF ALPHA-HORDOTHIONIN DERIVES DE
L'ALPHA-HORDOTHIONINE A FORTE TENEUR EN LYSINE (English; French)
Patent Assignee: PIONEER HI BRED INT (US)
Author (Inventor): RAO A GURURAJ (US); BEACH LARRY R (US)
Priority (No,Kind,Date): US 3885 A 19930113; WO 94US382 W
19940112
Applic (No,Kind,Date): CA 2161881 A 19940112
IPC: * C12N-015/29; A01H-005/00; C12N-005/10; A01N-037/18; C12N-001/21
; A01N-043/36; C07K-014/415
Language of Document: English
Patent (No,Kind,Date): CA 2161881 C 20010327
HIGH LYSINE DERIVATIVES OF ALPHA-HORDOTHIONIN (English; French)
Author (Inventor): RAO A GURURAJ (US); BEACH LARRY R (US)
Priority (No,Kind,Date): US 3885 A 19930113; WO 94US382 W
19940112
Applic (No,Kind,Date): CA 2161881 A 19940112
IPC: * C12N-015/29; A01H-005/00; C12N-005/10; A01N-037/18; C12N-001/21

; A01N-043/36; C07K-014/415
 CA Abstract No: * 121(25)297398A
 Derwent WPI Acc No: * C 94-249225
 Language of Document: English
 CANADA (CA)

Legal Status (No, Type, Date, Code, Text):

CA 2161881 P 19951031 CA REFW CORRESPONDS TO PCT
 APPLICATION (ENTSPRICHT PCT ANMELDUNG)
 WO 9416078 P

GERMANY (DE)

Patent (No, Kind, Date): DE 69428290 C0 20011018
 DERIVATE VON ALPHA-HORDOTHIONIN MIT HOEHEREM BEHALT AN LYSIN (German)
 Patent Assignee: PIONEER HI BRED INT (US)
 Author (Inventor): RAO A GURURAJ (US); BEACH LARRY R (US)
 Priority (No, Kind, Date): US 3885 A 19930113; WO 94US382 W
 19940112
 Applic (No, Kind, Date): DE 69428290 A 19940112
 IPC: * C12N-015/29; C07K-014/00; C12N-005/10; A01H-005/00; A01N-065/00
 ; C12N-001/21
 CA Abstract No: * 121(25)297398A
 Derwent WPI Acc No: * C 94-249225
 Language of Document: German
 Patent (No, Kind, Date): DE 69428290 T2 20020418
 DERIVATE VON ALPHA-HORDOTHIONIN MIT HOEHEREM BEHALT AN LYSIN (German)
 Patent Assignee: PIONEER HI BRED INT (US)
 Author (Inventor): RAO A GURURAJ (US); BEACH LARRY R (US)
 Priority (No, Kind, Date): US 3885 A 19930113; WO 94US382 W
 19940112
 Applic (No, Kind, Date): DE 69428290 A 19940112
 IPC: * C12N-015/29; C07K-014/00; C12N-005/10; A01H-005/00; A01N-065/00
 ; C12N-001/21
 CA Abstract No: * 121(25)297398A
 Derwent WPI Acc No: * C 94-249225
 Language of Document: German

GERMANY (DE)

Legal Status (No, Type, Date, Code, Text):

DE 69428290 P 20011018 DE REF CORRESPONDS TO
 (ENTSPRICHT)
 EP 745126 P 20011018
 DE 69428290 P 20020418 DE 8373 TRANSLATION OF PATENT
 DOCUMENT OF EUROPEAN PATENT WAS RECEIVED AND
 HAS BEEN PUBLISHED (UEBERSETZUNG DER
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 EINGEGANGEN UND VEROEFFENTLICHT WORDEN)
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 DE 69428290 P 20031113 DE 8339 CEASED/NON-PAYMENT OF THE
 ANNUAL FEE (WEGEN NICHTZ. D. JAHRESGEB.
 ERLOSCHEN)

EUROPEAN PATENT OFFICE (EP)

Patent (No, Kind, Date): EP 745126 A1 19961204
 HIGH LYSINE DERIVATIVES OF ALPHA-HORDOTHIONIN (English; French; German)
 Patent Assignee: PIONEER HI BRED INT (US)
 Author (Inventor): RAO A GURURAJ (US); BEACH LARRY R (US)
 Priority (No, Kind, Date): US 3885 A 19930113; WO 94US382 W
 19940112
 Applic (No, Kind, Date): EP 94908585 A 19940112

Designated States: (National) AT; BE; CH; DE; DK; ES; FR; GB; GR; IE;
 IT; LI; LU; MC; NL; PT; SE
 IPC: * C12N-015/29; C07K-014/00; C12N-005/10; A01H-005/00; A01N-065/00
 ; C12N-001/21
 CA Abstract No: * 121(25)297398A
 Derwent WPI Acc No: * C 94-249225
 Language of Document: English
 Patent (No,Kind,Date): EP 745126 B1 20010912
 HIGH LYSINE DERIVATIVES OF ALPHA-HORDOTHIONIN (English; French; German)
 Patent Assignee: PIONEER HI BRED INT (US)
 Author (Inventor): RAO A GURURAJ (US); BEACH LARRY R (US)
 Priority (No,Kind,Date): US 3885 A 19930113; WO 94US382 W
 19940112
 Applic (No,Kind,Date): EP 94908585 A 19940112
 Designated States: (National) AT; BE; CH; DE; DK; ES; FR; GB; GR; IE;
 IT; LI; LU; MC; NL; PT; SE
 IPC: * C12N-015/29; C07K-014/00; C12N-005/10; A01H-005/00; A01N-065/00
 ; C12N-001/21
 CA Abstract No: * 121(25)297398A
 Derwent WPI Acc No: * C 94-249225
 Language of Document: English

EUROPEAN PATENT OFFICE (EP)

Legal Status (No,Type,Date,Code,Text):

EP 745126	P	19930113	EP AA	PRIORITY (PATENT APPLICATION) (PRIORITAET (PATENTANMELDUNG))
		US 3885 A	19930113	
EP 745126	P	19940112	EP AA	PCT-APPLICATION (PCT-ANMELDUNG)
		WO 94US382 W	19940112	
EP 745126	P	19940112	EP AE	EP-APPLICATION (EUROPÄISCHE ANMELDUNG)
		EP 94908585 A	19940112	
EP 745126	P	19961204	EP AK	DESIGNATED CONTRACTING STATES IN AN APPLICATION WITH SEARCH REPORT: (IN EINER ANMELDUNG BENANNTE VERTRAGSSTAATEN)
		AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE		
EP 745126	P	19961204	EP A1	PUBLICATION OF APPLICATION WITH SEARCH REPORT (VERÖFFENTLICHUNG DER ANMELDUNG MIT RECHERCHENBERICHT)
EP 745126	P	19961204	EP 17P	REQUEST FOR EXAMINATION FILED (PRÜFUNGSANTRAG GESTELLT)
		951006		
EP 745126	P	19980401	EP RAP1	APPLICANT (CORRECTION) (ANMELDER (KORR.))
		PIONEER HI-BRED INTERNATIONAL, INC.		
EP 745126	P	19990506	EP 17Q	FIRST EXAMINATION REPORT (ERSTER PRÜFUNGSBESCHEID)
		19990317		
EP 745126	P	20010912	EP AK	DESIGNATED CONTRACTING STATES MENTIONED IN A PATENT SPECIFICATION: (IN EINER PATENTSCHRIFT ANGEFÜHRTE BENANNTE VERTRAGSSTAATEN)
		AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE		
EP 745126	P	20010912	EP B1	PATENT SPECIFICATION (PATENTSCHRIFT)
EP 745126	P	20010912	EP REF	IN AUSTRIA REGISTERED AS:

(IN AT EINGETRAGEN ALS:)
 AT 205533 R 20010915

EP 745126	P	20010914	CH EP/REG	ENTRY IN THE NATIONAL PHASE (EINTRITT IN DIE NATIONALE PHASE)
EP 745126	P	20011017	IE FG4D/REG	EUROPEAN PATENTS GRANTED DESIGNATING IRELAND
EP 745126	P	20011018	EP REF	CORRESPONDS TO: (ENTSPRICHT) DE 69428290 P 20011018
EP 745126	P	20020101	GB IF02/REG	EUROPEAN PATENT IN FORCE AS OF 2002-01-01
EP 745126	P	20020301	EP NLV1	NL: LAPSED OR ANNULED DUE TO FAILURE TO FULFILL THE REQUIREMENTS OF ART. 29P AND 29M OF THE PATENTS ACT; NO LEGAL EFFECT FROM THE DATE OF (NL: WIRKUNG IN NL NICHT EINGETRETEN (ART. 29P UND 29M NL PATG.))
EP 745126	P	20020315	CH PL/REG	PATENT CEASED (LOESCHUNG/RADIATION/RADIAZION)
EP 745126	P	20020626	EP 25	LAPSED IN A CONTRACTING STATE (ERLOSCHEN IN EINEM VERTRAGSSTAAT) PT 20011212
EP 745126	P	20020717	EP 25	LAPSED IN A CONTRACTING STATE (ERLOSCHEN IN EINEM VERTRAGSSTAAT) BE 20010912
EP 745126	P	20020717	EP 25	LAPSED IN A CONTRACTING STATE (ERLOSCHEN IN EINEM VERTRAGSSTAAT) BE 20010912
EP 745126	P	20020726	EP EN	FR: TRANSLATION NOT FILED (FR: TRADUCTION N'A PAS ETE REMISE)
EP 745126	P	20020904	EP GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE 20020112
EP 745126	P	20020904	EP 26N	NO OPPOSITION FILED (KEIN EINSPRUCH EINGELEGT)
EP 745126	P	20021113	IE MM4A/REG	PATENT LAPSED
EP 745126	P	20030102	EP 25	LAPSED IN A CONTRACTING STATE (ERLOSCHEN IN EINEM VERTRAGSSTAAT) BE 20010912
EP 745126	P	20030102	EP 25	LAPSED IN A CONTRACTING STATE (ERLOSCHEN IN EINEM VERTRAGSSTAAT) BE 20010912
EP 745126	P	20030102	EP 25	LAPSED IN A CONTRACTING STATE (ERLOSCHEN IN EINEM VERTRAGSSTAAT) BE 20010912
EP 745126	P	20030219	EP 25	LAPSED IN A CONTRACTING STATE (ERLOSCHEN IN EINEM VERTRAGSSTAAT) BE 20010912
EP 745126	P	20030219	EP 25	LAPSED IN A CONTRACTING STATE (ERLOSCHEN IN EINEM VERTRAGSSTAAT) BE 20010912
EP 745126	P	20030219	EP 25	LAPSED IN A CONTRACTING STATE (ERLOSCHEN IN EINEM VERTRAGSSTAAT) BE 20010912
EP 745126	P	20030219	EP 25	LAPSED IN A CONTRACTING STATE (ERLOSCHEN IN EINEM VERTRAGSSTAAT) BE 20010912
EP 745126	P	20030226	EP 25	LAPSED IN A CONTRACTING STATE (ERLOSCHEN IN EINEM VERTRAGSSTAAT) AT 20010912
EP 745126	P	20030226	EP 25	LAPSED IN A CONTRACTING

			STATE (ERLOSCHEN IN EINEM VERTRAGSSTAAT)
			AT 20010912
EP 745126	P	20030226 EP 25	LAPSED IN A CONTRACTING
			STATE (ERLOSCHEN IN EINEM VERTRAGSSTAAT)
			AT 20010912
EP 745126	P	20030226 EP 25	LAPSED IN A CONTRACTING
			STATE (ERLOSCHEN IN EINEM VERTRAGSSTAAT)
			AT 20010912
EP 745126	P	20030226 EP 25	LAPSED IN A CONTRACTING
			STATE (ERLOSCHEN IN EINEM VERTRAGSSTAAT)
			AT 20010912
EP 745126	P	20030423 EP 25	LAPSED IN A CONTRACTING
			STATE (ERLOSCHEN IN EINEM VERTRAGSSTAAT)
			AT 20010912
EP 745126	P	20030423 EP 25	LAPSED IN A CONTRACTING
			STATE (ERLOSCHEN IN EINEM VERTRAGSSTAAT)
			AT 20010912
EP 745126	P	20030423 EP 25	LAPSED IN A CONTRACTING
			STATE (ERLOSCHEN IN EINEM VERTRAGSSTAAT)
			AT 20010912
EP 745126	P	20030423 EP 25	LAPSED IN A CONTRACTING
			STATE (ERLOSCHEN IN EINEM VERTRAGSSTAAT)
			AT 20010912
EP 745126	P	20030423 EP 25	LAPSED IN A CONTRACTING
			STATE (ERLOSCHEN IN EINEM VERTRAGSSTAAT)
			AT 20010912
EP 745126	P	20031105 EP 25	LAPSED IN A CONTRACTING
			STATE (ERLOSCHEN IN EINEM VERTRAGSSTAAT)
			AT
EP 745126	P	20031105 EP 25	LAPSED IN A CONTRACTING
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			AT
EP 745126	P	20031105 EP 25	LAPSED IN A CONTRACTING
			STATE (ERLOSCHEN IN EINEM VERTRAGSSTAAT)
			AT
EP 745126	P	20031105 EP 25	LAPSED IN A CONTRACTING
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EP 745126	P	20031105 EP 25	LAPSED IN A CONTRACTING
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			AT
EP 745126	P	20031105 EP 25	LAPSED IN A CONTRACTING
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			AT
EP 745126	P	20040121 EP 25	LAPSED IN A CONTRACTING
			STATE (ERLOSCHEN IN EINEM VERTRAGSSTAAT)
			AT
EP 745126	P	20040121 EP 25	LAPSED IN A CONTRACTING
			STATE (ERLOSCHEN IN EINEM VERTRAGSSTAAT)
			BE
EP 745126	P	20040121 EP 25	LAPSED IN A CONTRACTING
			STATE (ERLOSCHEN IN EINEM VERTRAGSSTAAT)
			DK
EP 745126	P	20040121 EP 25	LAPSED IN A CONTRACTING
			STATE (ERLOSCHEN IN EINEM VERTRAGSSTAAT)

EP 745126 P 20040121 EP 25 LAPSED IN A CONTRACTING
 STATE (ERLOSCHEN IN EINEM VERTRAGSSTAAT)
 GB
 EP 745126 P 20040121 EP 25 LAPSED IN A CONTRACTING
 STATE (ERLOSCHEN IN EINEM VERTRAGSSTAAT)
 IE
 EP 745126 P 20040121 EP 25 LAPSED IN A CONTRACTING
 STATE (ERLOSCHEN IN EINEM VERTRAGSSTAAT)
 NL
 EP 745126 P 20040121 EP 25 LAPSED IN A CONTRACTING
 STATE (ERLOSCHEN IN EINEM VERTRAGSSTAAT)
 PT

UNITED STATES OF AMERICA (US)

Patent (No,Kind,Date): US 5990389 A 19991123
 High lysine derivatives of alpha -hordothionin (English)
 Patent Assignee: PIONEER HI BRED INT (US)
 Author (Inventor): RAO A GURURAJ (US); BEACH LARRY (US)
 Priority (No,Kind,Date): US 838763 A 19970410; US 575654 B1
 19951220; US 369975 B1 19950106; US 3885 B1 19930113
 Applic (No,Kind,Date): US 838763 A 19970410
 National Class: * 800301000; 800279000; 530300000; 530372000;
 536023600; 435410000; 435419000; 435468000; 435320100
 IPC: * A01H-005/00; C12N-015/29; C12N-015/82; A01G-013/00
 Language of Document: English

UNITED STATES OF AMERICA (US)

Legal Status (No,Type,Date,Code,Text):
 US 5990389 P 19930113 US AA PRIORITY
 US 3885 B1 19930113
 US 5990389 P 19950106 US AA PRIORITY
 US 369975 B1 19950106
 US 5990389 P 19951220 US AA PRIORITY
 US 575654 B1 19951220
 US 5990389 P 19970410 US AE APPLICATION DATA (PATENT)
 (APPL. DATA (PATENT))
 US 838763 A 19970410
 US 5990389 P 19991123 US A PATENT
 US 5990389 P 20020618 US RF REISSUE APPLICATION FILED
 (REISSUE APPL. FILED)
 20011105

WORLD INTELLECTUAL PROPERTY ORGANIZATION, PCT (WO)

Patent (No,Kind,Date): WO 9416078 A1 19940721
 HIGH LYSINE DERIVATIVES OF ALPHA-HORDOTHIONIN (English)
 Patent Assignee: PIONEER HI BRED INT (US)
 Author (Inventor): RAO A GURURAJ; BEACH LARRY R
 Priority (No,Kind,Date): US 3885 A 19930113
 Applic (No,Kind,Date): WO 94US382 A 19940112
 Designated States: (National) AT; AU; BB; BG; BR; BY; CA; CH; CN; CZ;
 DE; DK; ES; FI; GB; HU; JP; KP; KR; KZ; LK; LU; LV; MG; MN; MW; NL;
 NO; NZ; PL; PT; RO; RU; SD; SE; SK; UA; UZ; VN (Regional) AT; BE;
 CH; DE; DK; ES; FR; GB; GR; IE; IT; LU; MC; NL; PT; SE; BF; BJ; CF;
 CG; CI; CM; GA; GN; ML; MR; NE; SN; TD; TG
 Filing Details: WO 130000 With international search report; Before
 expiration of time limit for amending the claims and to be
 republished in the event of the receipt of the amendments
 IPC: * C12N-015/29; C07K-013/00; C12N-005/10; A01H-005/00; A01N-065/00
 ; C12N-001/21
 CA Abstract No: * 121(25)297398A; 121(25)297398A

Derwent WPI Acc No: * C 94-249225; C 94-249225
 Language of Document: English
 Patent (No,Kind,Date): WO 9416078 A2 19940721
 HIGH LYSINE DERIVATIVES OF ALPHA-HORDOTHIONIN DERIVES
 D'ALPHA-HORDOTHIONINE A HAUTE TENEUR EN LYSINE (English)
 Patent Assignee: PIONEER HI BRED INT (US)
 Author (Inventor): RAO A GURURAJ; BEACH LARRY R
 Priority (No,Kind,Date): US 3885 A 19930113
 Applic (No,Kind,Date): WO 94US382 A 19940112
 Designated States: (National) AT; AU; BB; BG; BR; BY; CA; CH; CN; CZ;
 DE; DK; ES; FI; GB; HU; JP; KP; KR; KZ; LK; LU; LV; MG; MN; MW; NL;
 NO; NZ; PL; PT; RO; RU; SD; SE; SK; UA; UZ; VN (Regional) AT; BE;
 CH; DE; DK; ES; FR; GB; GR; IE; IT; LU; MC; NL; PT; SE; BF; BJ; CF;
 CG; CI; CM; GA; GN; ML; MR; NE; SN; TD; TG
 Filing Details: WO 130000 With international search report; Before
 expiration of time limit for amending the claims and to be
 republished in the event of the receipt of the amendments
 IPC: * C12N-015/29; C07K-013/00; C12N-005/10; A01H-005/00; A01N-065/00
 ; C12N-001/21
 Language of Document: English
 Patent (No,Kind,Date): WO 9416078 A3 19940901
 HIGH LYSINE DERIVATIVES OF ALPHA-HORDOTHIONIN (English)
 Patent Assignee: PIONEER HI BRED INT (US)
 Author (Inventor): RAO A GURURAJ; BEACH LARRY R
 Priority (No,Kind,Date): US 3885 A 19930113
 Applic (No,Kind,Date): WO 94US382 A 19940112
 IPC: * C12N-015/29; C07K-013/00; C12N-005/10; A01H-005/00; A01N-065/00
 ; C12N-001/21
 Language of Document: English

WORLD INTELLECTUAL PROPERTY ORGANIZATION, PCT (WO)

Legal Status (No,Type,Date,Code,Text):

WO 9416078	P	19930113	WO AA	PRIORITY (PATENT)
		US 3885	A	19930113
WO 9416078	P	19940112	WO AE	APPLICATION DATA (APPL.
				DATA)
		WO 94US382	A	19940112
WO 9416078	P	19940721	WO AK	DESIGNATED STATES CITED IN A
				PUBLISHED APPLICATION WITH SEARCH REPORT
				(DESIGNATED STATES CITED IN A PUBLISHED APPL.
				WITH SEARCH REPORT)
				AT AU BB BG BR BY CA CH CN CZ DE DK ES FI GB
				HU JP KP KR KZ LK LU LV MG MN MW NL NO NZ PL
				PT RO RU SD SE SK UA UZ VN
WO 9416078	P	19940721	WO AK	DESIGNATED STATES CITED IN A
				PUBLISHED APPLICATION WITH SEARCH REPORT
				(DESIGNATED STATES CITED IN A PUBLISHED APPL.
				WITH SEARCH REPORT)
				AT AU BB BG BR BY CA CH CN CZ DE DK ES FI GB
				HU JP KP KR KZ LK LU LV MG MN MW NL NO NZ PL
				PT RO RU SD SE SK UA UZ VN
WO 9416078	P	19940721	WO AL	DESIGNATED COUNTRIES FOR
				REGIONAL PATENTS CITED IN A PUBLISHED
				APPLICATION WITH SEARCH REPORT (DESIGNATED
				COUNTRIES FOR REGIONAL PATENTS CITED IN A
				PUBLISHED APPL. WITH SEARCH REPORT)
				AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT
				SE BF BJ CF CG CI CM GA GN ML MR NE SN TD TG
WO 9416078	P	19940721	WO AL	DESIGNATED COUNTRIES FOR
				REGIONAL PATENTS CITED IN A PUBLISHED
				APPLICATION WITH SEARCH REPORT (DESIGNATED

COUNTRIES FOR REGIONAL PATENTS CITED IN A
 PUBLISHED APPL. WITH SEARCH REPORT)
 AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT
 SE BF BJ CF CG CI CM GA GN ML MR NE SN TD TG

WO 9416078	P	19940721	WO A1	PUBLICATION OF THE INTERNATIONAL APPLICATION WITH THE INTERNATIONAL SEARCH REPORT (PUB. OF THE INTERNATIONAL APPL. WITH THE INTERNATIONAL SEARCH REPORT)
WO 9416078	P	19940721	WO A2	PUBLICATION OF THE INTERNATIONAL APPLICATION WITHOUT THE INTERNATIONAL SEARCH REPORT (PUB. OF THE INTERNATIONAL APPL. WITHOUT THE INTERNATIONAL SEARCH REPORT)
WO 9416078	P	19940818	WO CFP	CORRECTED VERSION OF A PAMPHLET FRONT PAGE
WO 9416078	P	19940818	WO CR1	CORRECTION OF ENTRY IN SECTION I (CORRECTION OF ENTRY IN SECT. I)
				PAT.BUL.17/94 UNDER PUBLISHED REPLACE "A1" BY "A2"
WO 9416078	P	19940901	WO A3	SUBSEQUENT PUBLICATION OF THE INTERNATIONAL SEARCH REPORT (SUBSEQUENT PUB. OF THE INTERNATIONAL SEARCH REPORT)
WO 9416078	P	19941026	WO 121	EP: PCT APP. ART. 158 (1) (EP: PCT ANM. ART. 158 (1))
WO 9416078	P	19941027	WO DFPE	REQUEST FOR PRELIMINARY EXAMINATION FILED PRIOR TO EXPIRATION OF 19TH MONTH FROM PRIORITY DATE
WO 9416078	P	19951031	WO ENP	ENTRY INTO THE NATIONAL PHASE IN: CA 2161881 AA
WO 9416078	P	19951109	DE 8642/REG	WITHDRAWAL (ZURUECKNAHME)

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